DEPARTMENT OF ECOLOGY
State of Washington

PREVENTION OF SIGNIFICANT DETERIORATION (PSD) PERMIT

Issued To:	Northwest Pipeline LLC
Facility Name/Location:	Sumas Compressor Station 4738 Jones Road, Sumas, Washington
Permit Number:	PSD 01-08, Amendment 5
Date of Permit Issuance:	May 6, 2020
Effective Date of Permit:	May 6, 2020

This PSD permit is issued under the authority of the Washington State Clean Air Act, Chapter 70.94 Revised Code of Washington; the Washington State Department of Ecology regulations for the Prevention of Significant Deterioration of Air Quality as set forth in Washington Administrative Code 173-400-700 through 750.

PREPARED BY:

MENGCHIU LIM
STATE OF WASHINGTON
50167
REGISTERED
PROFESSIONAL ENGINEER

MengChiu Lim, P.E.
Science and Engineering Section
Air Quality Program

5/4/2020
Date

APPROVED BY:

Rob Dengel
Deputy Air Quality Program Manager
Washington Department of Ecology

5/6/2020
Date

Project Description

The Northwest Pipeline LLC (NWP) operates a natural gas pipeline system from the Washington-Canada border near Sumas, Washington, to the San Juan Gas Fields in New Mexico. The gas pipeline system serves commercial, industrial, utility, and cogeneration customers in Washington, Oregon, Nevada, and California.

For this permit amendment, NWP has requested to revise the carbon monoxide (CO) monitoring requirements for the Mars 90S combustion turbines. NWP proposes to monitor the CO emissions using a portable emission analyzer at least once every 4,380 hours of operation. NWP also proposes to remove the requirement to verify the accuracy of portable analyzers not less than once every calendar year in conjunction with the stack tests.

This permit amendment also streamlines the existing permit conditions to provide better clarity of the requirements. See more discussion regarding the changes in the technical support document for this amendment.

The emission units affected by this permit are listed below.

Emission Unit Description	Design Capacity
Solar Mars 90 gas turbine	100.03 MMBtu/hour @ 59°F
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Sellers C-60 water heater/boiler	2.5 MMBtu/hour
Caterpillar emergency electrical generator –natural gas fired	270 kW

Approval Conditions

1. The Mars 90S turbines, the standby generator, and the boiler/heater shall only burn natural gas.

2. A three-way catalytic converter shall be installed on the Caterpillar 270 kW standby generator.

3. The standby generator shall be operated no more than 500 hours in any consecutive 12-month period. Compliance shall be determined by installing and operating a nonresettable hour meter with monthly recording of the operating hour meter reading to determine the operating hours, or by automated data collection.

4. Emissions of CO from each combustion turbine are limited as follows:
   a. Volume percent CO of not greater than 50 parts per million dry volume (ppmdv) over a 1-hour average corrected to 15 percent O2.
   b. Mass emission of CO not greater than 14 pounds per hour (lb/hr) per turbine on a 1-hour average.
   c. Mass emission of CO not greater than 46.5 tons per turbine for any consecutive 12-month period.

5. Compliance with Condition 4.a and Condition 4.b shall be demonstrated in accordance with 40 CFR 60 Subpart GG and 40 CFR 60 Appendix A, Method 10 except that the instrument's span shall be reduced as appropriate. NWP shall submit a test plan to Ecology and NWCAA for approval at least 30 days prior to testing. NWP shall submit a complete test report to the NWCAA no later than 60 days after completion of the tests.

6. NWP shall demonstrate compliance with Condition 4.a and Condition 4.b annually no sooner than 10 months after the previous test and no later than 13 months after the previous test.

7. NWP shall monitor compliance with Condition 4.a by measuring CO concentration at least once every 4,380 hours of turbine operation from each turbine exhaust stack using portable emissions analyzer testing in accordance with USEPA Designated Conditional Test Method 34. An alternate or modified test method may be used if approved in writing by Ecology prior to the test.

   a. Monitoring shall be conducted using a portable emissions analyzer capable of adjustment to the 15 percent oxygen concentration basis.
   b. NWP shall perform three consecutive tests using the portable emissions analyzer.

   If the average of the three test results indicates noncompliance with Condition 4.a, NWP shall shut down the unit as soon as is practical and contact the NWCAA as promptly as possible and in no event more than 12 hours later. Exceedance of the limit imposed by

Condition 4.a as indicated by the average of the three consecutive tests shall be prima facie evidence of a violation of Condition 4.a.

8. To demonstrate compliance with Condition 4.c, NWP shall determine the tons of CO emissions from each of the turbines for the most recent consecutive twelve months, no later than twenty days of the end of each month. For this calculation, NWP shall utilize a time-weighted average of the relevant stack test results wherein the results of each source test shall be the presumed emission rate until the next source test.

9. NWP shall report the monitoring and process data from the Sumas Station to Ecology and NWCAA not less than once each calendar quarter or on another reporting schedule approved by Ecology, and in the format approved by Ecology. The reports shall include, but not necessarily be limited to the following:

   a. For the standby generator: Total hours of operation for the 12 immediately preceding months.
   b. For the Sellers C60 boiler: Total monthly CO emissions. Calculated using AP 42 emission factors or other methods agreed to in writing by Ecology.
   c. For each combustion turbine stack:
      - All exhaust stack CO concentrations since the last report pursuant to measurement under Condition 7.
      - The total CO mass emissions for the 12 immediately preceding months.
      - Report any scheduled portable analyzer tests that were not completed. The report shall include the reason for not completing the test and corrective actions taken.
      - Results of any compliance monitoring source tests conducted in accordance with 7 since the last quarterly report. If reported separately, these results need not be duplicated in the quarterly reporting.
   d. For each occurrence of CO monitored emissions in excess of the concentration limits or mass limits in Condition 4, NWP shall report the:
      - Time of the occurrence.
      - Magnitude of the emission or process parameters excess.
      - The duration of the excess.
      - The probable cause.
      - Corrective actions taken or planned.
      - Any other agency contacted.

10. NWP shall maintain the monitoring and process records that include, but not necessarily limited to:

    - Fuel monitoring records.
    - Operating hours records.
    - Number of turbine start-up and shutdown events

    NWP shall inform Ecology and NWCAA on the location of the monitoring and process records. NWP shall maintain Sumas Station monitoring and process records for at least five years and provide to Ecology and NWCAA within 10 working days of the request.

11. NWP shall develop and maintain an Operation and Maintenance (O&M) Equipment Manual for the facility. The O&M manual shall identify operational procedures for the standby generator, Sellers C60 boiler, and combustion turbines that constitute proper operation relative to compliance with the emission limitation conditions of this permit. As a minimum, these shall include:

    - Manufacturers' operating instructions and design specifications.
    - Normal operating parameters and design specifications.
    - Updates to reflect any modifications of the equipment or its operating procedures.

    NWP shall keep the Sumas Station O&M Equipment Manual up to date and assure that it is readily available at the facility for review by state, federal, and local agencies.

12. Nothing in this determination shall be construed to relieve NWP of its obligations under any state, local, or federal laws or regulations.

13. This permit cancels and supersedes PSD No. 01-08, Amendment 4.